WMA POLICY FINANCIAL IMPACTS
WORCESTER, MA
October 20, 2006

Background

Worcester has a municipally operated water system within the Department of Public Works and Parks. It is an enterprise system (as is the Sewer system) which does not receive any tax dollars but relies on water rates and miscellaneous income such as fees and fire service charges to meet all expenses.

Worcester is a surface water system with its own reservoirs to meet water use demand. All but one of the ten reservoirs flow by gravity to the main intake. Worcester does have a connection with MWRA for emergency supply only. This connection has historically been used about once every 20 years. All of the supply is treated at a filtration plant that began operating in 1997. After treatment, about 60% of the water is pumped into the distribution system while 40% is gravity fed.

Financials

FY2006 water rate: $2.38/hcf-uniform rate for all customers

FY2006 rate budget expenses: $24,927,029

FY2006 rate budget In-City rate revenue needed: $20,744,343 (remainder of expenses covered by various fees and charges)

Variable Costs 2005: (treatment and pumping) $991,131 (4% of total expenses)

Fixed Costs 2005: (including salaries, capital, fringe, etc.) $23,935,858 (96% of total expenses)

Water Stats

2005 Withdrawals (for In-City use only): 8,003.096 MG (21.9 MGD)

Water withdrawn from 2 basins, Medium-stressed Nashua and Low stressed Blackstone-Policy standards for Medium stress rule:

Residential per capita: 61 gallons per day in 2005 (Accuracy is very suspect and the number varies considerably from year to year but assume we meet this standard)

Unaccounted for water: 18% in 2005 (accuracy is very suspect and number is variable but typically in this range. Not a revenue generator so no lost income but what are costs to reduce to 10%? In the early 1980's unaccounted for water was near 30%. An aggressive meter changeout program and continuing rehabilitation of the distribution system has

reduced this figure to the 15%-20% range seen in recent years. About $50,000 is spent annually on leak detection surveys and our own staff repairs over 200 leaks and 50 main breaks in a typical year. A meter testing and maintenance program (about $100,000 annually) is also ongoing.)

Summer limits on withdrawals: Medium stressed basin-either watering 2 days per week from May 1- Sept 30 OR use Quinapoxet River Gauge and limit to 1 day per week when gauge below 0.5cfsm during May 1- Sept 30. On average, gauge is below 0.5cfsm every July, August & September. DEP policy will consider alternatives to summer limits, such as downstream releases from reservoirs, for surface water systems. This is unlikely to be a feasible option for Worcester so we will assume water restrictions apply.

Assume water restrictions result in 10% decrease in annual use

Water saved: 800 MG
Water Revenue Lost: $2,545,455 (12.3% of annual revenue needs)
Variable Cost Savings: (assume 10% reduction) $99,113
Net: ($2,446,342 Loss) (11.8% of annual revenue needs)
Rate impact: Increase rate by $0.31/hcf to offset loss
Customer Cost Impact: about $25 annually for average single family home; $30,000 annually for high use manufacturer, major hospitals

NOTE: $2.4 million could purchase and protect 250 acres of buildable forest land in the water supply watershed OR fund one year of distribution system (pipe and valve) rehabilitation/replacement work.

NOTE: Worcester has adequate supplies to meet water use needs for the foreseeable future and is not looking to develop new sources other than for redundancy/emergency needs. The City is not planning to take more water from MWRA except under emergency circumstances. The City has no plans or need to increase pumping or treatment capacity and all planned capital improvements are strictly to upgrade aging infrastructure, improve service reliability or meet regulatory requirements (e.g., dam upgrades, security). In short, Worcester has NO demand-based capital improvements on the horizon that could be deferred or downscaled through water conservation.

Other Info

Worcester has had a WMA permit under appeal since 1989. The City's own Law Department has been handling the appeal and some engineering consultant work has been involved along with DPW staff time. I do not have a dollar figure to apply to this effort.

Worcester water rates took a huge leap in the late 1980's to fund construction of a new water filtration plant. The rates have generally been raised every year or two to fund operational and capital programs. Sewer rates have increased some 85% over the past 3 years to fund a major capital upgrade at the regional wastewater treatment facility (Worcester pays about 90% of the wastewater plant costs). The expectations are that

sewer rates will jump another 20% next year. These recent and anticipated rate increases will have added about $200 to the annual water & sewer bills for average single family homes.

There are about 40,000 metered accounts in the City. We expect to begin a small meter replacement program within the next 5 years as our oldest meters approach 20 years of age. Costs for meters and contracted installers will be in the $6 million to $10 million range with the replacement program taking 5-10 years to complete.

Since the 1970's Worcester has expended about $2,500,000 annually on water distribution system rehabilitation including main replacement, service replacement, main cleaning and lining, and valve replacement. Slightly over one-half of our distribution system has been repaired and it is expected to take nearly 50 more years to complete the task.

Worcester is currently having a water audit (paper analysis only) conducted for $15,000. A DEP grant is funding $14,000 of this project which will be completed by year's end.

Worcester's water use has declined by some 15% since the 1980's and has held virtually steady since 1990. Since that time the City has expanded its role as a regional supplier by providing water to other communities in the region. The City has also seen steady growth through the 1990's and up to the present year. There are thousands more people served by the Worcester water system today than there were in the 1980's yet water use is 15% less. The last 2 years (2005 & 2006) have seen a further decrease after a slight upward trend. The drastic increase in sewer rate has been attributed to this latest decline.

Prepared and submitted by

Philip D. Guerin
Director of Environmental Systems
Worcester Department of Public Works & Parks
Water Operations